

## ABSTRACT

A piezoelectric debris sensor and associated signal processor responsive to debris strikes enable an autonomous or non-autonomous cleaning device to detect the presence of debris and in response, to select a behavioral mode, operational condition or pattern of movement, such as spot coverage or the like. Multiple sensor channels (e.g., left and right) can be used to enable the detection or generation of differential left/right debris signals and thereby enable an autonomous device to steer in the direction of debris.